IN THE CLAIMS

This listing of claims replaces all prior versions, and listings, in this application.

1. (currently amended) A method for preparation of a modified host cell comprising:

a) transfecting a host cell with at least one polynucleotide ~~compound of interest~~ to which a label is covalently coupled and

b) isolating the transfected host cell, wherein said at least one polynucleotide permanently changes a metabolic property of the transfected host cell as compared to the non-transfected host cell;

wherein the label provides to the host cell a non-inheritable trait.

2. (original) A method according to claim 1, wherein isolation of the transfected host cell is established by direct separation of the host cells containing said label from host cells not containing said label.

3. (currently amended) A method according to claim[[s]] 1, wherein isolation of the transfected host cell is established by using means that can distinguish and separate said transfected host cell containing said label from non-transfected host cells.

4. (previously presented) A method according to claim 1, wherein the label is selected from the group consisting of a fluorescent label, a luminescent label, a chemoluminescent label, a magnetic label, an antigenic label, an enzymatic label, and a radioactive label.

5. (original) A method according to claim 3, wherein the label is a fluorescent label and the means for detection is a Fluorescent Activated Cell Sorter (FACS).

6. (previously presented) A method according to claim 1, wherein the transfected host cell of step b) is subsequently cultured.

7. (currently amended) A method according to claim 1, wherein the at least one polynucleotide does not comprise an antibiotic or other selection marker which is an inheritable trait ~~the compound of interest is a compound able to change permanently or transiently a metabolic property of the host cell~~.

8. (currently amended) A method according to claim 1, wherein DNA expression levels and/or RNA expression levels and/or protein expression levels are altered in the transfected host cell as compared to the non-transfected host cell ~~the compound of interest is selected from the group consisting of polynucleotides, proteins, and metabolites~~.

9. (previously presented) A method according to claim 1, wherein the modified host cell is a prokaryotic cell, a eukaryotic cell, a mammalian cell or a plant cell.

10. (withdrawn-currently amended) A method for preparation of a desired compound by a transfected ~~transformed~~ host cell comprising:

a) transfecting a host cell with at least one polynucleotide involved in production of said desired compound and which is covalently coupled to a label which provides to the host cell a non-inheritable trait,
b) isolating the transfected host, wherein said at least one polynucleotide permanently changes production of said desired compound of the transfected host cell as compared to the non-transfected host cell,
c) culturing the transfected host cell under proliferating conditions,
d) culturing the transfected host cell in broth under conditions wherein the desired compound is produced, and
e) isolating the desired compound from the culture broth.

11. (withdrawn) A method according to claim 10, wherein the polynucleotide is selected from the group consisting of DNA, RNA, short hairpin RNA, non-coding RNA, LNA, HNA, and PNA.

12. (withdrawn) A method according to claim 10, wherein the polynucleotide modifies the titer, stability, isolation and/or activity of said desired compound.

13. (withdrawn) A method according to claim 10, wherein the desired compound is a protein.

14. (withdrawn) A method according to claim 10, wherein the desired compound is an enzyme.

15. (currently amended) A method for preparation of a ~~desired metabolite by a transformed~~ modified host cell comprising:

a) transfecting a host cell with at least one DNA ~~polynucleotide involved in production of said desired metabolite and~~ which is covalently coupled to a fluorescent label that ~~which~~ provides to the host cell a non-inheritable trait,

b) isolating the transfected host cell by detecting the fluorescent label and then separating fluorescent host cells which were transfected from non-fluorescent host cells which were not transfected,

c) culturing the transfected host cell such that fluorescently-labeled polynucleotide integrates into the host cell's genome ~~under proliferating conditions~~,

d) multiplying ~~culturing~~ the transfected host cell which has polynucleotide integrated in its genome such that the fluorescent label is diluted and lost in progeny of the transfected host cell ~~under conditions wherein the desired metabolite is produced~~, and

e) isolating from non-labeled progeny of the transfected host cell a modified host cell having a changed metabolic property as compared to the host cell prior to transfection ~~the desired metabolite from the culture broth~~.

16. (withdrawn-currently amended) A method for preparation of a desired metabolite by a modified host cell comprising: ~~according to claim 15, wherein the polynucleotide is~~

~~selected from the group consisting of DNA, RNA, short hairpin RNA, non-coding RNA, LNA, HNA, and PNA~~

a) preparing a modified host cell according to claim 15 wherein said DNA is involved in production of the desired metabolite,

b) culturing the modified host cell in broth under conditions wherein the desired metabolite is produced, and

c) isolating the desired metabolite from the culture broth.

17. (withdrawn-currently amended) A method according to claim [[15]] 16, wherein the desired metabolite is a primary metabolite.

18. (withdrawn-currently amended) A method according to claim [[15]] 16, wherein the desired metabolite is an amino acid, a steroid or a nucleotide.

19. (withdrawn-currently amended) A method according to claim [[15]] 16, wherein the desired metabolite is a secondary metabolite.

20. (withdrawn) A method according to claim 19, wherein the desired secondary metabolite is an antibiotic, a vitamin, an anti-infective, a macrolide, a polyketide, a pheromone, an alkaloid or a drug.

21. (withdrawn-currently amended) A method for preparation of a desired biomass by a modified ~~transformed~~ host cell comprising:

[[a)]] ~~transfecting a host cell with at least one polynucleotide involved in production of said desired biomass and which is covalently coupled to a label which provides to the host cell a non-inheritable trait,~~

[[b)]] ~~isolating the transfected host,~~

[[c)]] ~~culturing the transfected host under proliferating conditions,~~

[[d)]] ~~culturing the transfected host under conditions wherein the desired biomass is produced, and~~

e) ~~isolating the desired biomass~~

a) preparing a modified host cell according to claim 15 wherein said at least one DNA is involved in production of the desired biomass,

b) culturing the modified host cell under conditions wherein the desired biomass is produced, and

c) isolating the desired biomass from the culture.

Claim 22 (canceled)

23. (withdrawn) A method according to claim 21, wherein the desired biomass is a yeast cell.

24. (withdrawn) A method according to claim 21, wherein the desired biomass comprises a biocatalyst.

25. (withdrawn) A method according to claim 21, wherein the desired biomass comprises screenable cells for drug discovery.

Claim 26 (canceled)

27. (new) A method according to claim 15, wherein the at least one DNA does not comprise an antibiotic or other selection marker which is an inheritable trait.

28. (new) A method according to claim 15, wherein RNA expression levels and protein expression levels are altered in the modified host cell as compared to the non-modified host cell.